



UNITED STATES PATENT AND TRADEMARK OFFICE



UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/796,752 | 03/09/2004 | Xinghua Li | CRNG.053 | 2524 |

7590
Kevin Able, Esquire
IP Department
SP-TI-3-1
Sullivan Park
Corning, NY 14831

06/27/2007

| EXAMINER |
|----------|
|----------|

ELVE, MARIA ALEXANDRA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1725

| MAIL DATE | DELIVERY MODE |
|-----------|---------------|
|-----------|---------------|

06/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|---------------------------|--|
| Office Action Summary | Application No. 10/796,752 | Applicant(s) LI ET AL. | |
| | Examiner M. Alexandra Elve | Art Unit 1725 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 11-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 22-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 10, 22-23, 27 & 30-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-4, 9-10 & 13 of copending Application No10/964,972. Although the conflicting claims are not identical, they are not patentably distinct from each other because both inventions are drawn to a method of hermetically sealing a device with irradiation.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5-6, 10, 22-24, 27 & 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Hawtof et al. (USPAP 2005/0151151 A1).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Hawtof et al. discloses a method of hermetically sealing an OLED. Ultra violet laser radiation may be used to irradiate the sealing layer causing it to swell and form a hermetic seal between the two display substrates. The laser is focused through the substrate on to the sealing layer. The hermetic seal provides a barrier for water so that not more than approximately 10^{-6} g/m²- day penetrates the seal. Moreover, the hermetic seal beneficially provides a barrier for oxygen so that not more and approximately 10^{-3} ml/m²- day penetrate the seal. The OLED display is not heated above 85°C. Different types of glasses may be used for the substrates. Figure 2 shows that there are no electrodes mounted on the bottom substrate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-10, 22-23, 27-29 & 31-32 are rejected under 35 U.S.C. 103(a) as being obvious over Li et al. (USPAP 2003/0066311 A1) in view of Neev (USPN 6,156,030).

Li et al. discloses a (OLED) luminescent body formed on a glass substrate with a bonded glass cap. The sealing layer is formed on the rim of the glass substrate. A high-powered laser is used to penetrate the glass cap and focus on the sealing layer so as to sinter the frit. An airtight case results for packaging the OLED. The laser is focused through the substrate and into the sealing layer (see figure 3). Temperatures less than 90°C are used. A high-powered laser with IR or UV is used to melting the sealing layer.

Li et al. does not teach the use of a pulsed ultrafast laser or non-linear optical absorption.

Neev discloses an ultra fast laser, which may be used for melting (full and partial), texturing and so forth. The pulsed laser may be used in the femto second range for silicon melting, resurfacing, and texturing. If high photon concentration is achieved, the radiation ceases to propagate linearly and non-linear multi-photon absorption and multi-photon ionization lead to the production of free electrons and a significant increase

Art Unit: 1725

in thermal energy density and thermal ionization of the material also leading to the production of free electrons and ions. If the target material linear absorption at the selected wavelength is low, the beam will propagate with little or no effect on the target material. Thus, regions where the beam power density is below that which are required for plasma generation will remain unaltered. Only those regions within the beam power density profile, which are capable of creating plasma, will interact with the target material and result in material alteration.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fast laser as taught by Neev in the Li et al. system because of the localized and concentrated irradiation for "melting" minimizes thermally induced structural changes in other areas of the device.

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. and Neev, as stated above and further in view of Tatah et al. (USPN 5,786,560).

Li et al. and Neev do not disclose the laser beam being focused within the substrate.

Tatah et al. discloses micromachining with a femtosecond pulsed laser. UV radiation may be used to imbed a spot below the surface of a sample.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the various positioning of the laser beam within the sample, as taught by Tatah et al. in the Li et al. process because it is merely a variation of the focused laser beam position.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. and Neev, as stated above and further in view of Yee et al. (USPN 6,933,537).

Li et al. discloses an airtight case for packaging the OLED and the desirability of negating moisture in the package, but does not give specific values.

Yee et al. discloses hermetic (airtight) sealing of OLED devices. The permeability of water vapor transmission rate is $0.75 \text{ gm/m}^2\text{-day}$ for sealing band (epoxy).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a permeability rate, as taught by Yee et al. in the Li et al. process because these are directed to the sealing of OLED which should be airtight (hermetically sealed).

Claims 1, 3-10, 22-23, 27-29 & 31-32 are rejected under 35 U.S.C. 103(a) as being obvious over Morena et al. (USPAP 2004/0206953 A1) in view of Neev

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and

reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Morena et al. discloses the manufacture of a hermetically sealed glass package i.e. an OLED. The second substrate contains a dopant. The laser is used to heat the doped second substrate plate in manner that causes a portion of it to swell and form a hermetic seal that connects the first substrate with the second substrate.

Morena et al. does not teach the use of a high-powered, ultrafast laser or non-linear optical absorption.

Neev discloses an ultra fast laser, which may be used for melting (full and partial), texturing and so forth. The pulsed laser may be used in the femto second range for silicon melting, resurfacing, and texturing. If high photon concentration is achieved, the radiation ceases to propagate linearly and non-linear multi-photon absorption and multi-photon ionization lead to the production of free electrons and a significant increase in thermal energy density and thermal ionization of the material also leading to the production of free electrons and ions. If the target material linear absorption at the selected wavelength is low, the beam will propagate with little or no effect on the target material. Thus, regions where the beam power density is below that which are required for plasma generation will remain unaltered. Only those regions within the beam power

density profile, which are capable of creating plasma, will interact with the target material and result in material alteration.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fast laser as taught by Neev in the Morena et al. system because of the localized and concentrated irradiation for "melting" minimizes thermally induced structural changes in other areas of the device.

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morena et al. and Neev, as stated above and further in view of Tatah et al. (USPN 5,786,560).

Morena et al. and Neev do not disclose the laser beam being focused within the substrate.

Tatah et al. discloses micromachining with a femtosecond pulsed laser. UV radiation may be used to imbed a spot below the surface of a sample.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the various positioning of the laser beam within the sample, as taught by Tatah et al. in the Morena et al. process because it is merely a variation of the focused laser beam position.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morena et al. and Neev, as stated above and further in view of Yee et al. (USPN 6,933,537).

Morena et al. discloses an airtight case for packaging the OLED and the desirability of negating moisture in the package, but does not give specific values.

Yee et al. discloses hermetic (airtight) sealing of OLED devices. The permeability of water vapor transmission rate is $0.75 \text{ gm/m}^2\text{-day}$ for sealing band (epoxy).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a permeability rate, as taught by Yee et al. in the Morena et al. process because these are directed to the sealing of OLED which should be airtight (hermetically sealed).

Claims 1, 3-10, 22-23, 27-29 & 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auch et al. (USPN 6,803,245) in view of Neev.

Auch et al. discloses the encapsulation of an electronic device i.e. an OLED. A thin cover lid holder is attached to a substrate without damage. The substrate is comprised of a transparent substrate for example glass. The lid layer is glass. Adhesives, inductance techniques or laser welding may be used to mount the lid on to the substrate. The glass support is transparent to UV.

Auch et al. does not teach the use of a high-powered, ultrafast laser or non-linear optical absorption.

Neev discloses an ultra fast laser, which may be used for melting (full and partial), texturing and so forth. The pulsed laser may be used in the femto second range for silicon melting, resurfacing, and texturing. If high photon concentration is achieved, the radiation ceases to propagate linearly and non-linear multi-photon absorption and multi-photon ionization lead to the production of free electrons and a significant increase in thermal energy density and thermal ionization of the material also leading to the

Art Unit: 1725

production of free electrons and ions. If the target material linear absorption at the selected wavelength is low, the beam will propagate with little or no effect on the target material. Thus, regions where the beam power density is below that which are required for plasma generation will remain unaltered. Only those regions within the beam power density profile, which are capable of creating plasma, will interact with the target material and result in material alteration.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fast laser as taught by Neev in the Auch et al. system because of the localized and concentrated irradiation for "melting" minimizes thermally induced structural changes in other areas of the device.

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auch et al. and Neev, as stated above and further in view of Tatah et al. (USPN 5,786,560).

Auch et al. and Neev do not disclose the laser beam being focused within the substrate.

Tatah et al. discloses micromachining with a femtosecond pulsed laser. UV radiation may be used to imbed a spot below the surface of a sample.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the various positioning of the laser beam within the sample, as taught by Tatah et al. in the Auch et al. process because it is merely a variation of the focused laser beam position.

Art Unit: 1725

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Auch et al. and Neev, as stated above and further in view of Yee et al. (USPN 6,933,537).

Auch et al. discloses an airtight case for packaging the OLED and the desirability of negating moisture in the package, but does not give specific values.

Yee et al. discloses hermetic (airtight) sealing of OLED devices. The permeability of water vapor transmission rate is $0.75 \text{ gm/m}^2\text{-day}$ for sealing band (epoxy).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a permeability rate, as taught by Yee et al. in the Auch et al. process because these are directed to the sealing of OLED which should be airtight (hermetically sealed).

Claims 1, 3-10, 22-23, 27-29 & 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langer et al. (USPN 6,936,963) in view of Neev.

Langer et al. discloses a process for encapsulating an OLED. A light source is used to solder the glass substrates together. The solder is heated using a laser. The advance of the laser is that the heat is in a confined area. YAG or diode lasers are used. Wavelengths lie in the IR region so that the radiation is applied directly to the solder.

Langer et al. does not specifically teach the use of a high-powered, ultrafast laser or non-linear optical absorption.

Neev discloses an ultra fast laser, which may be used for melting (full and partial), texturing and so forth. The pulsed laser may be used in the femto second range

Art Unit: 1725

for silicon melting, resurfacing, and texturing. If high photon concentration is achieved, the radiation ceases to propagate linearly and non-linear multi-photon absorption and multi-photon ionization lead to the production of free electrons and a significant increase in thermal energy density and thermal ionization of the material also leading to the production of free electrons and ions. If the target material linear absorption at the selected wavelength is low, the beam will propagate with little or no effect on the target material. Thus, regions where the beam power density is below that which are required for plasma generation will remain unaltered. Only those regions within the beam power density profile, which are capable of creating plasma, will interact with the target material and result in material alteration.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fast laser as taught by Neev in the Langer et al. system because of the localized and concentrated irradiation for "melting" minimizes thermally induced structural changes in other areas of the device.

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langer et al. and Neev, as stated above and further in view of Tatak et al. (USPN 5,786,560).

Langer et al. and Neev do not disclose the laser beam being focused within the substrate.

Tatak et al. discloses micromachining with a femtosecond pulsed laser. UV radiation may be used to imbed a spot below the surface of a sample.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the various positioning of the laser beam within the sample, as taught by Tatah et al. in the Langer et al. process because it is merely a variation of the focused laser beam position.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Langer et al. and Neev, as stated above and further in view of Yee et al. (USPN 6,933,537).

Langer et al. discloses an airtight case for packaging the OLED and the desirability of negating moisture in the package, but does not give specific values.

Yee et al. discloses hermetic (airtight) sealing of OLED devices. The permeability of water vapor transmission rate is $0.75 \text{ gm/m}^2\text{-day}$ for sealing band (epoxy).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a permeability rate, as taught by Yee et al. in the Langer et al. process because these are directed to the sealing of OLED which should be airtight (hermetically sealed).

Claims 1, 3-10, 22-23, 27-29 & 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming et al. (USPN 6,111,357) in view of Neev.

Fleming et al. discloses an OLED with a radiation-cured seal. The protective cover materials are glass or quartz. The resin or filler is cured using a laser. Lasers include argon gas and excimer.

Fleming et al. does not specifically teach the use of a high-powered, ultrafast laser or non-linear optical absorption.

Neev discloses an ultra fast laser, which may be used for melting (full and partial), texturing and so forth. The pulsed laser may be used in the femto second range for silicon melting, resurfacing, and texturing. If high photon concentration is achieved, the radiation ceases to propagate linearly and non-linear multi-photon absorption and multi-photon ionization lead to the production of free electrons and a significant increase in thermal energy density and thermal ionization of the material also leading to the production of free electrons and ions. If the target material linear absorption at the selected wavelength is low, the beam will propagate with little or no effect on the target material. Thus, regions where the beam power density is below that which are required for plasma generation will remain unaltered. Only those regions within the beam power density profile, which are capable of creating plasma, will interact with the target material and result in material alteration.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fast laser as taught by Neev in the Fleming et al. system because of the localized and concentrated irradiation for "melting" minimizes thermally induced structural changes in other areas of the device.

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming et al. and Neev, as stated above and further in view of Tatah et al. (USPN 5,786,560).

Fleming et al. and Neev do not disclose the laser beam being focused within the substrate.

Art Unit: 1725

Tatah et al. discloses micromachining with a femtosecond pulsed laser. UV radiation may be used to imbed a spot below the surface of a sample.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the various positioning of the laser beam within the sample, as taught by Tatah et al. in the Fleming et al. process because it is merely a variation of the focused laser beam position.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming et al. and Neev, as stated above and further in view of Yee et al. (USPN 6,933,537).

Fleming et al. discloses an airtight case for packaging the OLED and the desirability of negating moisture in the package, but does not give specific values.

Yee et al. discloses hermetic (airtight) sealing of OLED devices. The permeability of water vapor transmission rate is $0.75 \text{ gm/m}^2\text{-day}$ for sealing band (epoxy).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a permeability rate, as taught by Yee et al. in the Fleming et al. process because these are directed to the sealing of OLED which should be airtight (hermetically sealed).

Claims 1, 3-10, 22-23, 27-29 & 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guenther (USPN 6,952,078) in view of Neev.

Guenther discloses an encapsulated OLED. A cap is mounted on to the substrate using spacers. The substrate and cap materials include glass and so forth.

Art Unit: 1725

Spacer particles are made of glass. The cap is mounted using low temperature solder, ultrasonic bonding, welding techniques including inductance or laser welding.

Guenther does not teach the use of a high-powered, ultrafast laser or non-linear optical absorption.

Neev discloses an ultra fast laser, which may be used for melting (full and partial), texturing and so forth. The pulsed laser may be used in the femto second range for silicon melting, resurfacing, and texturing. If high photon concentration is achieved, the radiation ceases to propagate linearly and non-linear multi-photon absorption and multi-photon ionization lead to the production of free electrons and a significant increase in thermal energy density and thermal ionization of the material also leading to the production of free electrons and ions. If the target material linear absorption at the selected wavelength is low, the beam will propagate with little or no effect on the target material. Thus, regions where the beam power density is below that which are required for plasma generation will remain unaltered. Only those regions within the beam power density profile, which are capable of creating plasma, will interact with the target material and result in material alteration.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fast laser as taught by Neev in the Guenther system because of the localized and concentrated irradiation for "melting" minimizes thermally induced structural changes in other areas of the device.

Art Unit: 1725

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guenther and Neev, as stated above and further in view of Tatah et al. (USPN 5,786,560).

Guenther and Neev do not disclose the laser beam being focused within the substrate.

Tatah et al. discloses micromachining with a femtosecond pulsed laser. UV radiation may be used to imbed a spot below the surface of a sample.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the various positioning of the laser beam within the sample, as taught by Tatah et al. in the Guenther process because it is merely a variation of the focused laser beam position.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guenther and Neev, as stated above and further in view of Yee et al. (USPN 6,933,537).

Guenther discloses an airtight case for packaging the OLED and the desirability of negating moisture in the package, but does not give specific values.

Yee et al. discloses hermetic (airtight) sealing of OLED devices. The permeability of water vapor transmission rate is $0.75 \text{ gm/m}^2\text{-day}$ for sealing band (epoxy).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a permeability rate, as taught by Yee et al. in the Guenther process because these are directed to the sealing of OLED which should be airtight (hermetically sealed).

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on 571-272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 18, 2007.



M. Alexandra Elve
Primary Examiner 1725